101210 - SDI to HDMI converter

User Manual

101210·User Manual

Thank you for choosing our products!
In order to allow you to learn how to use the Mini Converter quickly, we bring you the detailed user Manual. You can read the introduction and directions before using the video processor, please read all the information we provide carefully to use our products correctly.

Copyright

©2012 All rights are reserved by Highlite International BV.
This document is done independently by Highlite International BV No part can be copied, reproduced or translated without permission.

Notice

DMT provides this manual “as is” without warranty of any kind, no matter expressed or implied, including but not limited to the implied warranties or merchantability and fitness for a particular purpose. DMT may make improvements or changes to the products and the programs described in this publication at any time without notice.
This publication would contain technical inaccuracies or typographical errors. Changes are periodically made to the information in this publication; these changes are incorporated in new editions of this publication.

Federal Communications Commission (FCC) Statement

This equipment has been tested and found to comply with the limits for a class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and radiates radio frequency energy and, if not installed or used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area may cause harmful interference, in which case the user will be responsible for correcting any interference.

Guarantee and Compensation

DMT provides a guarantee related to perfect manufacturing as part of the legally stipulated terms of guarantee. On receipt, the purchaser must immediately inspect all delivered goods for damage incurred during transportation, as well as for material and manufacturing faults. Please complain to DMT by written notice.

The period of guarantee begins from the date of transfer of risks, in the case of special systems and software on the date of commissioning, at latest 30 days after the transfer of risks. In the event of justified notice of compliant, DMT can repair the fault or provide a replacement at its own discretion within an appropriate period. If this measure proves to be impossible or unsuccessful, the purchaser can demand a reduction in the purchase price or cancellation of the contract. All other claims, in particular those relating to compensation for direct or indirect damage, and also damage attributed to the operation of software as well as to other service provided by DMT, being a component of the system or independent service, will be deemed invalid provided the damage is not proven to be attributed to the absence of properties guaranteed in writing or due to the intent or gross negligence or part of DMT.

If the purchaser or a third party carries out modifications or repairs on goods delivered by DMT, or if the goods are handled incorrectly, in particular if the systems are commissioned operated incorrectly or if, after the transfer of risks, the goods are subject to influences not agreed upon in the contract, all guarantee claims of the purchaser will be rendered invalid.

Not included in the guarantee coverage are system failures which are attributed to programs or special electronic circuitry provided by the purchaser, e.g. interfaces. Normal wear as well as normal maintenance are not subject to the guarantee provided by DMT either.

The environmental conditions as well as the servicing and maintenance regulations specified in this manual must be complied with the customer.

Trademark

Brand and product names mentioned in this manual may be trademarks, registered trademarks or copyrights of their respective holders. All brand and product names mentioned in this manual serve as comments or examples and are not to be understood as advertising for the products or their manufactures.

Operators Safety Summary

The general safety information in this summary is for operating personnel.

Do Not Remove Covers or Panels

There are no user-serviceable parts within the unit. Removal of the top cover will expose dangerous voltages. To avoid personal injury, do not remove the top cover. Do not operate the unit without the cover installed.

Power Source

This product is intended to operate from a power source that will not apply more than 230 volts rms between the supply conductors or between both supply conductor and ground. A protective ground connection by way of grounding conductor in the power cord is essential for safe operation.

Do Not Operate in Explosive Atmospheres

To avoid explosion, do not operate this product in an explosive atmosphere.

Terms in This Manual and Equipment Marking

WARNING

Highlight an operating procedure, practice, condition, statement, etc, which, if not strictly observed, could result in injury or death of personnel.

Note

Highlights an essential operating procedure, condition or statement.

CAUTION

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

CONTENT

CONTENT **6**
1. Brief Introduction **8**
Chapter Structure 9
System Overview 10
Application Questions 11
2. Hardware Orientation **12**
In This Chapter 12
Interface Description 13
INPUT Interface 13
1：SDI Input 13
4.5：Audio Input Interface 13
3.6：Indicator 13
2：SDI Loop Out 13
OUTPUT and Other Interface 14
3：HDMI Output Interface 14
5：USB Interface 14
1：Power 14
2.4.6：Indicator 14
Dial Switch 15
1. Dial Switch 15
3. Functional Description **16**
Functional Description 16
Functional Description Block Diagram 16
4. Dial Switch Function **17**
Functional Description Block Diagram 17
Instructions 18

5. Communication Software Guideline 21

Running Software 21

Use 21

Audio 21

Swap CbCr 21

Version 22

Input Information 22

Output 22

【Video Processor】 options 22

Language 22

Admin 22

Help 23

A. Specification 24

B. Contact Information 26

1. Brief Introduction

This chapter is designed to introduce you to the SDI to HDMI converter User Manual. Areas to be covered are:

- Chapter Structure
- How to Use The Manual
- Terms and Definitions
- System Overview
- Application Questions

1. Brief Introduction

System Overview

Chapter Structure

The following chapters provide instructions for all aspects of SDI to HDMI converter operations.

Chapter 1 Brief Introduction

Chapter 2 Hardware Orientation

Chapter 3 Functional Description

Chapter 4 Dial Switch Function

Chapter 5 Communication Software Guideline

Appendix A Specification

Appendix B Contact Information

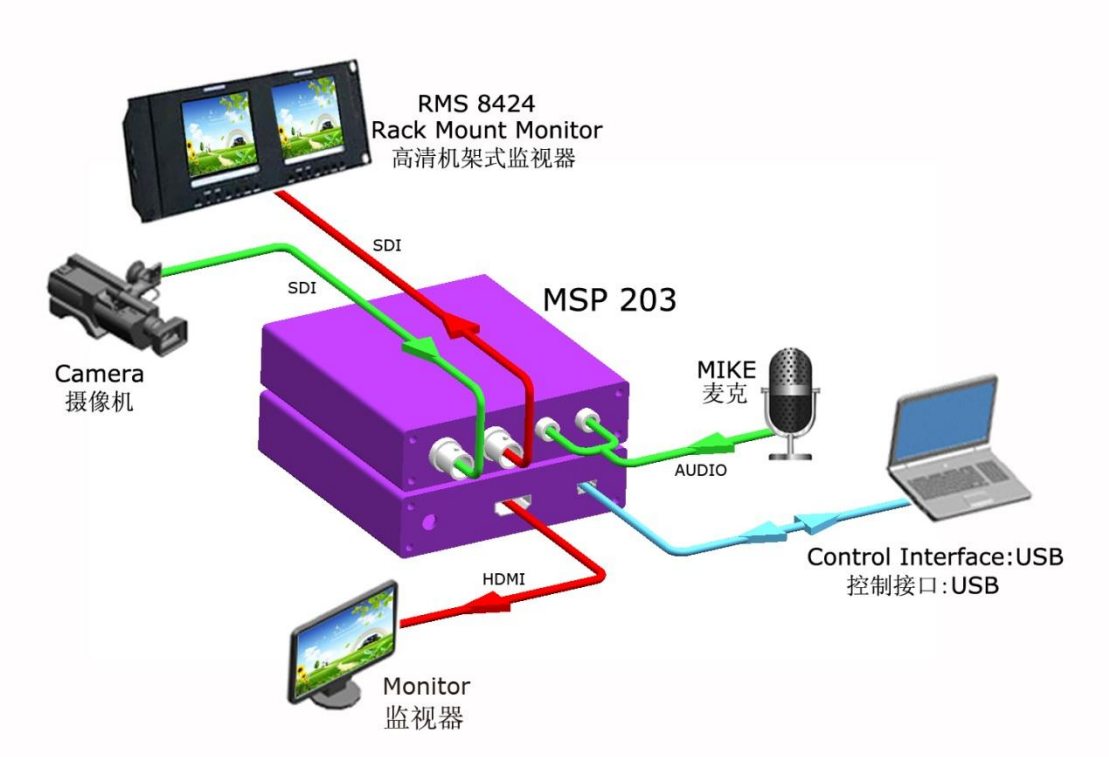
System Overview

The 10120 is the SDI to HDMI video converter, which can realize the switching from 3G/HD/SD-SDI to HDMI perfectly. It supports 1 SDI input, 2 balanced analog audio input or 1 digital AES/EBU input, and 1 HDMI output, 1 SDI loop out.

SDI to HDMI converter supports input and output resolution of 480i, 576i, 720p, 1080i and 1080p, also supports left and right analog sound channel input, digital AES/EBU input, SDI embedded audio input and mute function. It can adapt to multiple rates of SDI signal, including 3G-SDI, HD-SDI and SD-SDI. Easy operation. It is really the best bridge for broadcasting SDI to HDMI application!

Application Questions

DMT offers solutions to demand technical problems. Any application questions, or required further information, please contact with our Customer Support Engineers. Refer to Appendix B for contact details.



2. Hardware Orientation

In This Chapter

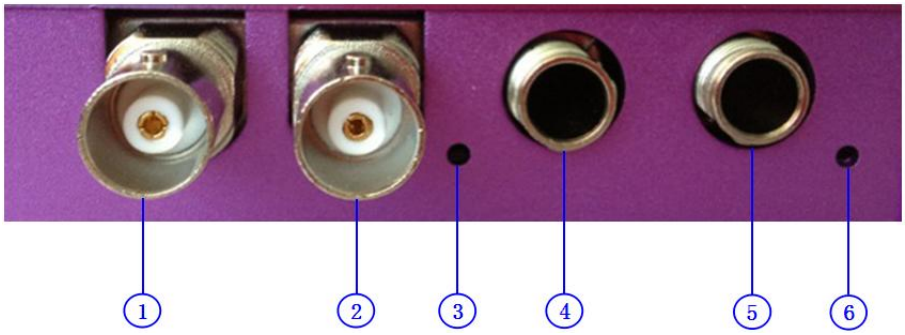
This chapter provides detailed information about the SDI to HDMI converter hardware. The following topics are discussed:

- Interface Description
- Dial Switch

Interface Description

INPUT Interface

It includes 1 SDI input, 2 balanced analog audio input or 1 digital AES/EBU input. The figure below illustrates the 101210 connections.



1：SDI Input

SDI input interface, can receive video signal from HD player, and HD camera, connect interface 1 via 75 ohms BNC port.

4.5：Audio Input Interface

Audio input interface, input audio signals from DVD player, set top box, hardware player, etc.

3.6：Indicator

When input analog audio signal, LED indicator 6 lights. When input digital AES/EBU signal, LED indicator 3 lights.

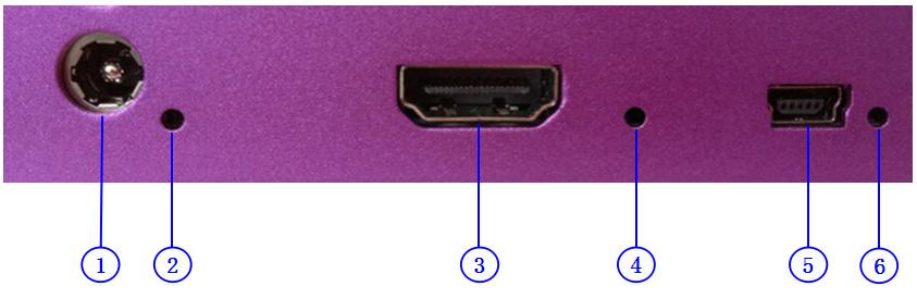
2：SDI Loop Out

SDI loop out, can connect the device with SDI input.

2. Hardware Orientation

Interface Description

OUTPUT and Other Interface



3：HDMI Output Interface

HDMI output interface.

5：USB Interface

The USB interface is used to control the computer.

1：Power

This device uses the standard 12V/3A power supply.

2.4.6：Indicator

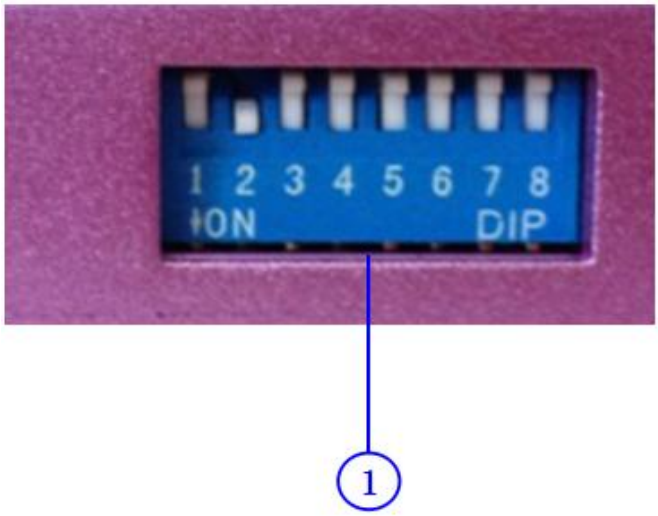
Power indicator 2 lights when device has power.

LED indicator 4 lights when output HDMI signal.

LED indicator 6 lights when connect USB to computer.

Dial Switch

Dial switch shown as follows:



1. Dial Switch

The dial switch upwards is OFF, downwards is ON.

For specific operation and instructions, please refer to chapter 4:

Dial Switch Function.

3. Functional Description

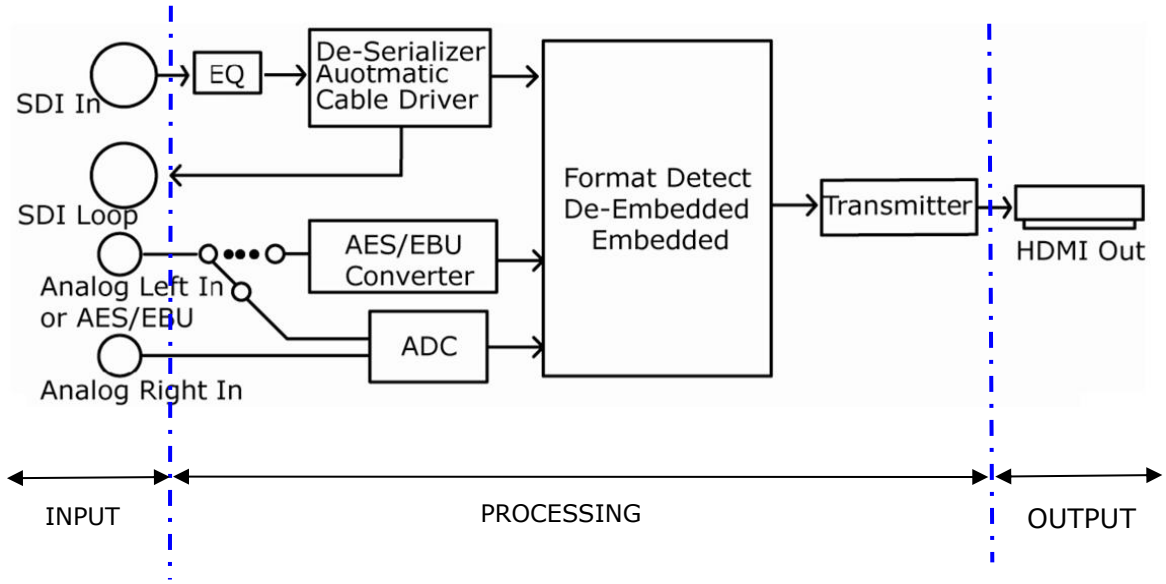
Functional Description

1. SDI input to HDMI output.
2. Support input and output resolution of 480i, 576i, 720p, 1080i and 1080p.
3. Support left and right analog sound channel input, digital AES/EBU input, SDI embedded audio input and mute function.
4. The LED indicator beside HDMI interface long lights when output HDMI signal and blinks when output DVI signal.

   When input analog audio signal, the LED indicators beside L-ANALOG and R-ANALOG light.

   When input digital AES/EBU signal, the LED indicator beside L-ANALOG or AES/EBU lights.

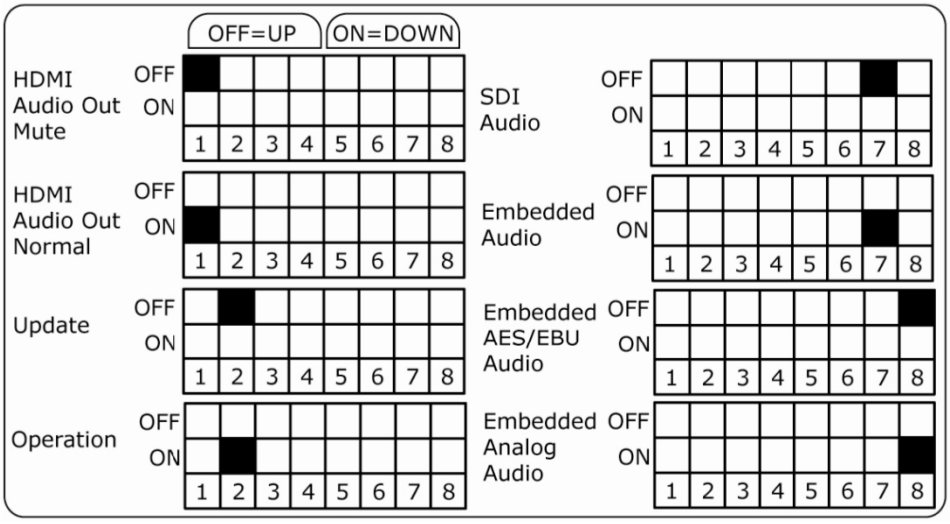
Functional Description Block Diagram



4. Dial Switch Function

Functional Description Block Diagram

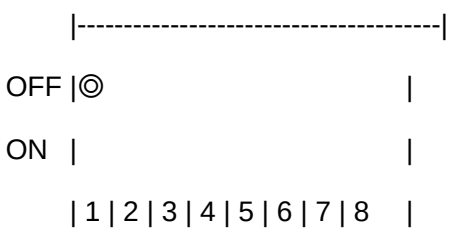
In this chapter, we will introduce the operation and instructions of dial switch, following is the functional description block diagram:



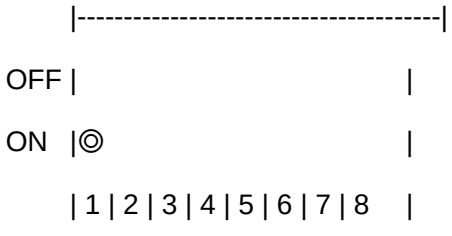
Instructions

The dial switch upwards is OFF, downwards is ON：

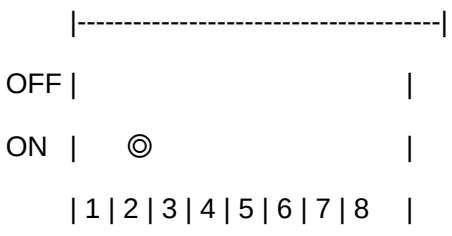
1. Dial switch1 OFF: mute.



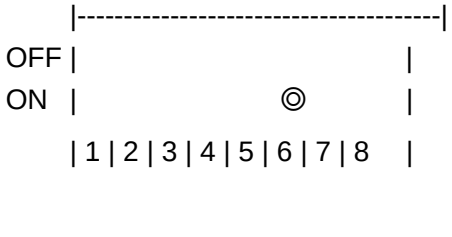
2. Dial switch 1 ON: cancel mute.



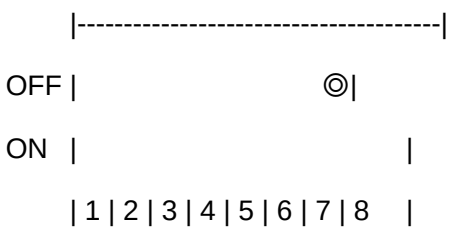
3. Dial switch 2 must be set to ON.



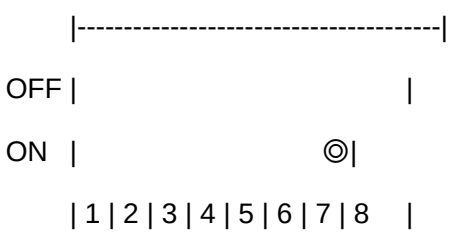
4. Dial switch 6 ON, signal format is 480i, signal swap CbCr.



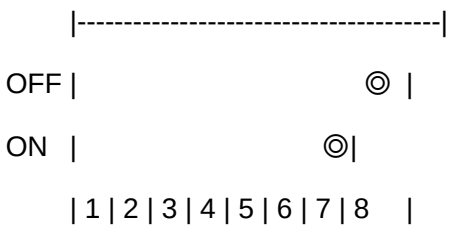
5. Dial switch 7 OFF: SDI embedded audio output, no analog audio and AES/EBU audio output.



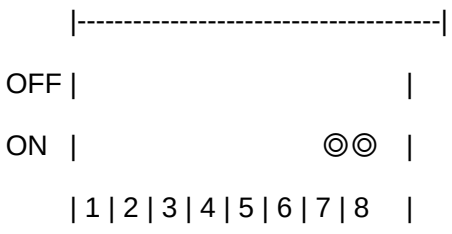
6. Dial switch 7 ON, no SDI embedded audio output, analog or AES/EBU audio output (depend on dial switch 8), HDMI signal.



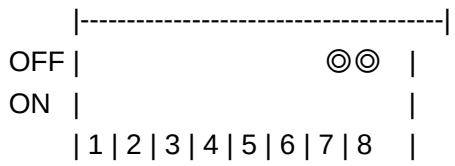
7. Dial switch 7 ON, dial switch 8 OFF: AES/EBU output, no analog audio output, HDMI signal.



8. Dial switch 7 ON, dial switch 8 ON: L-analog and R-analog audio output, no AES/EBU output, HDMI signal.



9. Dial switch 7 OFF, dial switch 8 OFF: DVI signal, no audio output.

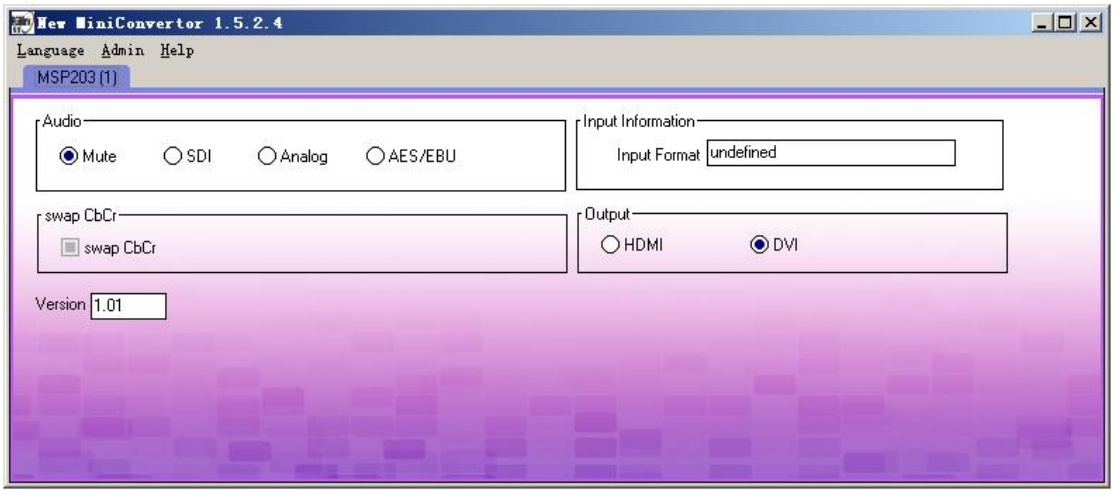


5. Communication Software Guideline

DMT series mini converter is equipped with user-friendly communication control software. User can set the audio display source and so on.

Running Software

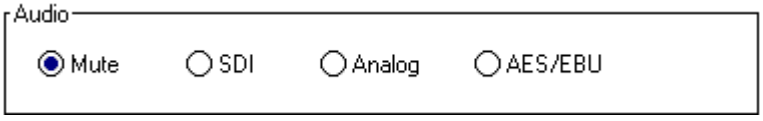
Double-click DMT software, 101210 software interface is shown as follows:



Use

Audio

Click the option box to select audio input source, including mute, SDI, analog or AES/ EBU, for example, choose mute:



Swap CbCr

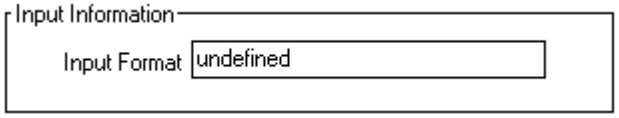
When choose the signal format as 480i, it will swap CbCr.

Version

Show the current device version information, the current version is 1.01 as shown below:

Input Information

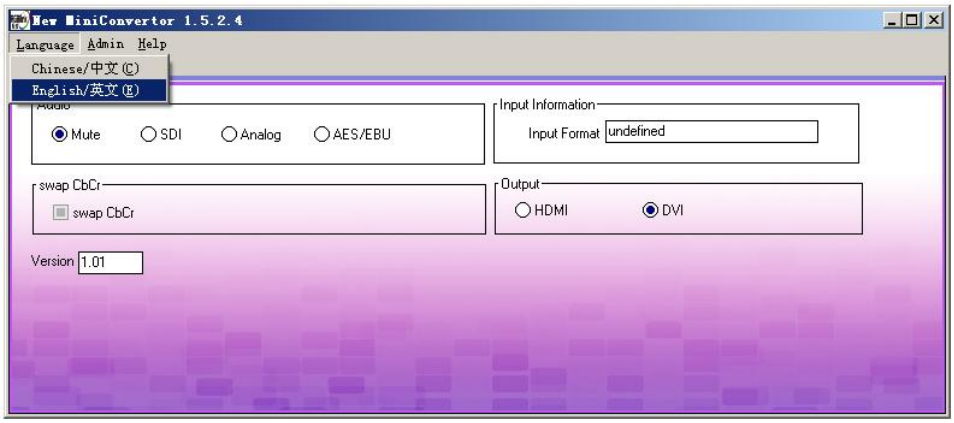
Show the current input information, including input format.



Output

Show the current output information, including HDMI and DVI.

【Video Processor】 **options**

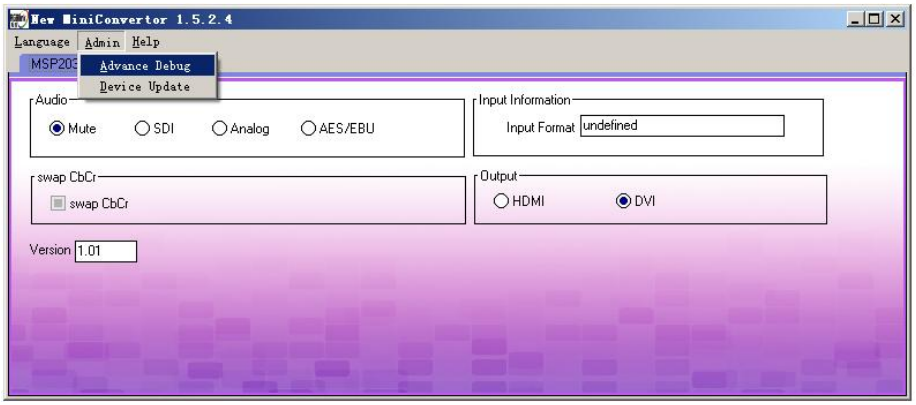


Language

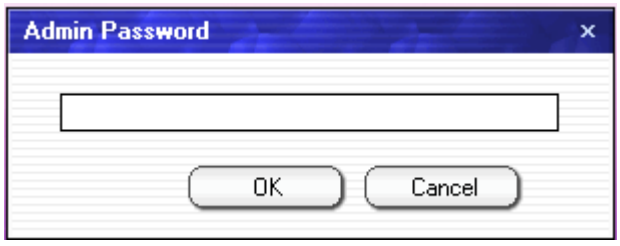
This software supports both Chinese and English, User can switch the language by “Language” option.

Admin

Including “Advance Debug” and “Device Update”:



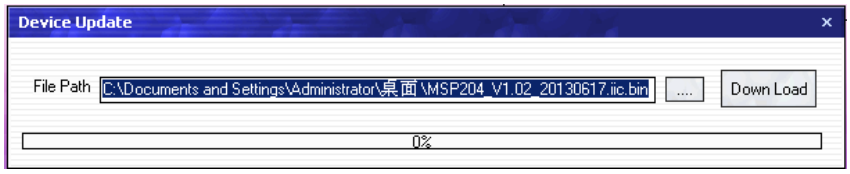
Advance Debug：User should input the password in the “Admin Password” dialog for advance debug.



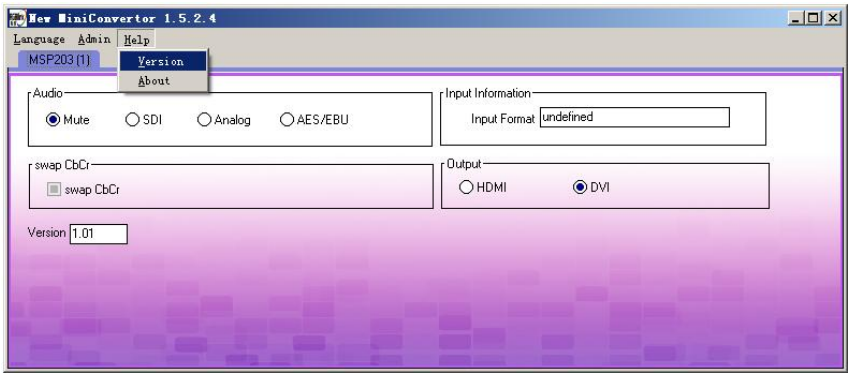
Note

Advance is only done by engineer. If need, please contact us for password.

Device Update:



Help



Version: Show the content of software update.

About: Show software version and company information.

A. Specification

SDI Input	
Number of Inputs	1
Connector	Standard BNC Socket
Tramsmission speed	19.4Mbps~3Gbps
Supported Standard	ITU-R BT.656,ITU-R BT.601,SMPTE 259M, SMPTE 292, SMPTE 297
Balance	Belden 1694A 100m self-adaptive 3G,200m self-adaptive 1.485G,350m self-adaptive 270Mbps
Signal Level	TMDS pwl , 165MHz bandwidth
SDI Loop Out	
Number of Inputs	1
Signal Level	800mV±10%
DC Offset	0V±0.5V
Output resolution （Supported Standards）	625/25 PAL, 525/29.97 NTSC, 720p50/59.94/60, 1080i50/59.94/60, 1080p23.98/24/25/29.97/30, 1080P50/59.94/60
Driver	Belden 1694A 150mself-adaptive 3G, 200m self-adaptive 1.485G,350m self-adaptive SD 270Mbps
Audio Input	
Number of inputs	2
connector	Standard 1/4” socket
Audio standard	48Kbps 24bit balance analog audio, or 48KHz 24bit AES audio
HDMI Output	
Number of outputs	1
Connector	HDMI standard type A interface
Output resolution （Supported Standards）	625/25 PAL, 525/29.97 NTSC, 720p50/59.94/60, 1080i50/59.94/60, 1080p23.98/24/25/29.97/30, 1080P50/59.94/60
Standard	HDMI 1.3
Function	
PPM	No support
TSL	No support
Format Conversion	No support
Frame Rate Conversion	No Support
Extras	
Assignment control	USB or dial switch
Power Supply	+12V standard 3.5” interface power module

Working Environment	0°C~45°C
Stored Environment	10% to 90%
Product Warranty	1 year

B. Contact Information

Warranty:

All video products are designed and tested to the highest quality standard and backed by a full 1-year parts and labor warranty. Warranties are effective upon delivery date to customer and are non-transferable. DMT warranties are only valid to the original purchase/owner. Warranty related repairs include parts and labor, but do not include faults resulting from user negligence, special modification, lighting strikes, abuse(drop/crush), and/or other unusual damages.

The customer shall pay shipping charges when unit is returned for repair.

Company Address

Highlite International BV

Vestastraat 2
6468 EX Kerkrade
The Netherlands
0031-45-5667700